

ABSTRACT

The invention broadly provides a ram incorporating a thermoplastic seal for sealing in the horizontal bore of a wellhead production blowout preventer to close off the vertical bore of the well, the ram being adapted to seal at its front end against either a polish rod of a rod string, or against an adjacent ram. The invention also extends to a BOP including a pair of such rams, wherein, each ram includes (a) a body component with front and rear portions and ends, (b) a seal component with front and rear portions and ends, (c) the body component having an arcuate longitudinal outer surface for conforming with the horizontal bore surface, and having a cut-out in its front portion which provides a seal support surface to support the seal component in both a vertical and horizontal direction, (d) the seal component having an arcuate longitudinal outer surface for conforming with the horizontal bore surface, and an inner surface which generally conforms to the seal support surface of the body component, the body component and seal components combining, in an assembled form, to form a full bore ram body, which when out of sealing engagement has the front end of the seal component protruding a horizontal distance d beyond the front end of the body component, (e) connectors for connecting the seal and body components while allowing the seal component, during sealing engagement, to be pressed against the seal support surface of the body component, and (f) the seal component providing a sealing surface formed of thermoplastic material around the arcuate outer surface for sealing against the horizontal bore. Thus, as the body component is advanced forwardly into a sealing engagement causing the front end of the seal component to contact either the adjacent ram or the polish rod to seal off the vertical bore, the seal component is pressed against the seal support surface of the body component such that the thermoplastic sealing surface is compressed outwardly to seal against the horizontal bore.